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БЕЗПЕКА І КОНФІДЕНЦІЙНІ РІШЕННЯ З ДАНИМИ

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SECURITY AND PRIVACY DECISIONS WITH DATA

When average users need to make a security or privacy decision, they are often not equipped to do so. When asked to make a password, the average user has only a vague, and sometimes incorrect, idea of what characteristics make a password hard to guess [145]. Often, the user does not know how password-guessing attacks work [161], nor how to navigate the greater ecosystem around passwords [14,49]. Similarly, most average users are confused [144] about the complex mechanics behind online behavioral advertising (OBA), in which advertisers track a user's web browsing for the purpose of targeting advertisements based on the individual user's interests.

Average users generally prefer receiving relevant advertising, yet are unsure how to weigh that benefit with their privacy concerns [144]. Similarly, if an average consumer wishes to do business with a privacy-protective financial institution, it has been unclear where he or she should begin. In this thesis, I will work towards better supporting users as they make these decisions.

This support will take the form of just-in-time information distilled automatically from data collected about the user's own behaviors and situations, as well as greater security and privacy ecosystems.

I hypothesize that when considered relative to data about greater ecosystems, a single user's own data can help the user make decisions that are objectively more secure or private, that he or she feels more confident about, that reflect a greater awareness of risks, and that better match the user's preferences.

I investigate my hypotheses through case studies in providing data-driven decision support to help users make more secure passwords, make privacy decisions about third-party tracking for online behavioral advertising, and find a privacy-protective financial institution

Much of the research on data-driven support for users in making security and privacy decisions has centered on smartphones. For example, Almuhiemedi et al. found that showing users how frequently different smartphone apps access sensitive data can nudge users to restrict apps' access to this information [3].

That project builds on work by Harbach et al., who demonstrated that personal examples of the data accessible to smartphone apps help users understand otherwise abstract smartphone permission requests [60]. Similarly, Balebako et al. demonstrated that summary visualizations and just-in-time notices of smartphone privacy leakages help correct users' misconceptions about data sharing

References

1. Despite decades of research into developing abstract security advice and improving interfaces, users still struggle to make security and privacy decisions. NAI. FAQs. <http://www.networkadvertising.org/managing/faqs.asp>. Last accessed June 2012.